

contain wastes) are located on the property. Automobile parts and various other municipal wastes and debris is scattered across the property.

The Haupt Dump area is located north of the Kimmel property. It contains several small properties that make up a portion of a subdevelopment called the Avondale Addition. Ownership of the properties is as follows: Benjamin Kimmel, lots 409, 410, and 414 through 418, (approximately 0.58 acres); Penn Industrial District, lots 413 and 419 (approximately 0.17 acres); Lena Kimmel, lots 411 and 412 (approximately 0.17 acres); and Whipple-Allen Realty Co., lots 401 through 408 (approximately 1.04 acres). Most of the area is filled with demolition wastes. A large metal storage building is present on the filled area on the Whipple-Allen Realty Co. portion of the property. Various municipal wastes and other debris are also present.

LOC, Inc. is a roof truss manufacturing company. The LOC, Inc. property is filled (mostly with contaminated foundry sands). Several buildings are located on the property. The area around the buildings is used for parking or for material storage.

Site topography is very flat. Most drainage is controlled by the on-site wetlands. Any potential surface water runoff and transport off the site would drain into the west branch of Cascade Creek, located east of the site, which drains into Lake Erie.

Drinking water in the area is provided by the City of Erie, which has intakes in Lake Erie 3.4 and 4.1 miles northwest of the site, and also by the Millcreek Township Water Authority which has municipal wells located 0.8 miles southwest of the site. Two private wells are located adjacent to the site. Richlyn Manufacturing, a machining business, which uses the well for business purposes, owns one of the wells. The other well is located at a residence at 1723 Filmore Avenue. During the Department's 1995 Site Characterization it was found that the residential well was present, but was not in use at that time. Access for the Department to sample the well was denied.

B. Site History

1. Ownership and Use History

Kimmel Property

Benjamin Kimmel, and his now deceased brother, William Kimmel purchased the 12.4 acre Kimmel property (also known as the Kimmel Site in historical documents) in 1948. In the 1950s and early 1960s the Kimmels used the property to store junk cars and used car parts. From the mid 1960s until approximately 1983, the property was used as an illegal dump site by unknown parties. Municipal wastes, demolition wastes, and various industrial wastes were disposed on the property.

In December 1982, responding to information obtained during its investigation of the nearby Millcreek Federal Superfund Site, the Department¹ collected soil, waste, and surface water

¹ Effective July 1, 1996, the Department of Environmental Resources became officially known as the Department of Environmental Protection, hereinafter, "Department".

samples on the Kimmel property, in addition to collecting samples from nearby private wells. Kimmel property waste samples sampled for EP Toxicity testing contained lead levels classified as hazardous. One sample collected in the stained fill area contained polychlorinated biphenyls ("PCBs") at levels below the current soil standards². One off-site water well sample contained the volatile organic compound ("VOC") 1,2-dichloroethene at 2.0 parts per billion ("ppb") which was the Maximum Contaminant Level ("MCL") in effect at that time. Based on the sampling results, the Department issued Benjamin Kimmel a Notice of Violation on December 6, 1982.

In response to the Department's Notice of Violation Mr. Kimmel hired Dr. Samuel S. Harrison, a Professional Geologist, and his associate J. Terrance Geary, a Chemist, as consultants. They conducted an investigation of the Kimmel Site hydrology, and collected samples of the groundwater (utilizing six monitoring wells) from late 1983 to mid-1985. Analytical results of the monitoring wells indicated elevated levels of metals (including lead) in unfiltered samples. Harrison also conducted a survey of the drums disposed on the Kimmel property. Four hundred thirty-two drums were located and generally categorized according to their contents. Samples of the drums contained concentrations of lead and chromium in some drum categories. Harrison's study concluded that little groundwater contamination had taken place at that time. Although Harrison made recommendations for closure of the site (removal and disposal of the drums and soil capping of foundry wastes) no contaminant cleanup or further action took place.

NUS Corporation ("NUS"), under contract for the U.S. Environmental Protection Agency ("EPA"), conducted a Site Inspection ("SI") on April 13, 1988 on the Kimmel property. Samples were collected from site surface soils, sediments, monitoring wells, off-site water supplies, and two drums.

SI surface soil and sediment samples were contaminated with inorganic hazardous substances, in particular, antimony [up to 55.6 parts per million ("ppm")], beryllium (up to 31.9 ppm), cadmium (up to 45.7 ppm), copper, (up to 49,900 ppm), lead (up to 10,200 ppm), mercury (up to 5.98 ppm), nickel (up to 927 ppm), and zinc (up to 96,900 ppm). Of these, the lead levels exceed the soil standard for lead (1000 ppm for surface soils in non-residential areas). Soil and sediment samples also contained PCBs and polycyclic aromatic hydrocarbons ("PAHs").

In unfiltered groundwater samples collected from monitoring wells during the SI, levels of several inorganic hazardous substances exceeded the MCLs in effect at the time for drinking water. However, inorganic hazardous substance levels did not exceed MCLs for filtered samples. Two samples from properties adjacent to site properties, Richlyn Manufacturing and Niagara Manufacturing, contained levels of lead above the 50 ppb MCL at that time for drinking water. The Richlyn Manufacturing well may have been in use as a potable water supply at the time.

SI drum samples contained low levels of chromium (62 ppm), copper (44 ppm) and cyanide (5.9 ppm), and higher concentrations of ethylbenzene (11,000 ppm) and xylene (56,000 ppm).

² Statewide Human Health Standards Medium Specific Concentrations for soil or groundwater are promulgated in the Department's Act 2 regulations at 25 Pa. Code Chapter 250 Tables 3 and 4.

On April 27, 1988, the EPA prepared a Hazard Ranking System ("HRS") PreScore for the Kimmel Site. The HRS Prescore for the Kimmel Site was 38.4.

On November 8-10, 1993, the Department collected surface soil samples and analyzed them for inorganic contaminants. Sample results contained lead levels above soil standards on the Kimmel property. The highest lead levels (over 8000 ppm) were found in the unvegetated dark fill area on the western end of the Kimmel property. Samples contained other metals, including zinc and copper, at levels below the soil standards.

Haupt Dump

The Haupt Dump (also known historically as the Haupt Dump Site) is contiguous to the Kimmel property on the northwestern section, and is 2.49 acres in size. The northern side of the area has been developed into an industrial area with a building extended onto the Whipple-Allen Realty property. Site historical information is limited, but industrial and municipal wastes similar to those found on the Kimmel property are present. Most of the site is grown up in trees and brush. Some wetland areas are present.

NUS, under contract with the EPA, conducted a Preliminary Assessment of the Haupt Dump site on November 18, 1987. Foundry sands and wastes, a few rusted drums, and miscellaneous municipal wastes were noted, but no samples were collected. One fill sample collected during the Department's November 1993 sampling event contained lead levels over the soil standards.

LOC, Inc. Property

The LOC, Inc. property is 4.97 acres in size. LOC, Inc. has occupied the property since 1973, and purchased it in 1987 from the Erie County Development Authority. LOC, Inc. manufactures roof trusses and retails other building supplies. Previous owners include Penn Industrial District (1970-1973) and the U.S. Metal Products Co. from the late 1930s until 1969.

U.S. Metal Products Company was a metal smelting operation that smelted brass and lead. Although little is known about the U.S. Metals Products Company operations, historical aerial photographs indicated the presence of two lagoons adjacent to a large building that was present on the property. The same building is currently utilized by LOC, Inc. for their manufacturing operations. The two lagoons have been filled.

The Department's November 1993 investigation found lead, zinc, and copper in the LOC, Inc. property surface soils. Although the copper and zinc levels were below the soil standards, most of the samples contained lead levels above the soil standards. Levels up to 20,000 ppm were found.

2. Site Characterization

The Department conducted a Site Characterization ("SC") of the site in 1995. The scope of the SC included: surveying and mapping of the site; a wetlands delineation survey; a geophysical survey; the installation of additional monitoring wells; test pit excavations; soil

borings; a home well survey; and the sampling of air, soil, surface waters, sediments, wastes, and groundwater. The results of the SC are summarized below.

Surface Water, Sediment, and Ecological Investigation

The wetland delineation defined 5.1 acres of wetlands on the properties. Portions of these wetlands have been filled or otherwise impacted by the hazardous substances disposed on the properties. Analyses of sediment samples found semi-volatile organic compounds ("SVOCs") and inorganic hazardous substances. Many of these hazardous substances are Constituents of Potential Ecological Concern.³ Levels of lead in some sediment samples exceeded the soil standards. Standing surface water in the wetland area contained copper and zinc levels over Pennsylvania Water Quality Standards.

Air Quality

Air quality samples were collected on the LOC, Inc. property to assess the levels of hazardous substances (particularly lead) in dust generated during high particulate generating events. Levels were found to be within acceptable limits.

Surface/Subsurface Soils and Wastes

Several samples collected from soil and waste borings, and from test pits, on the Kimmel property, contained organic hazardous substances. Soil and waste samples contained SVOCs, including naphthalene (up to 110 ppb), 2-methylnaphthalene (up to 190 ppb), phthalates (up to 1800 ppb), and PAHs. One boring in the large drum pile encountered a sludge that contained the VOCs toluene (11 ppm), ethylbenzene (26 ppm), and xylene (260 ppm). Test pits constructed around the large drum pile on the Kimmel property found methylene chloride (up to 180 ppb), 1,1,1-trichloroethane (up to 23 ppb), trichloroethene (up to 23 ppb), tetrachloroethene (up to 190 ppb), chlorobenzene (2 ppb) and the BTEX (benzene, toluene, ethylbenzene, and xylene) compounds.

Samples collected from borings in the foundry sand disposal areas on the western end of the Kimmel property, on the LOC, Inc. property, and from the Kimmel property test pits contained metals including: barium (up to 1210 ppm), chromium (up to 25,000 ppm), antimony (up to 111 ppm), copper (up to 51,000 ppm), zinc (up to 223,000 ppm), and lead (up to 51,310 ppm). Vanadium, nickel, and cyanide were also found in some test pit samples.

The results of the surface/subsurface investigation found widespread levels of lead exceeding the soil standards in the surface soils (0 to 2 foot depth) and surface wastes. The soil standards were exceeded for subsurface soils (based on the soil-to-groundwater standards for used aquifers) at depths up to 10 feet. The highest levels of lead were found in the dark stained and filled areas on the western end of the Kimmel property and throughout the LOC, Inc. property. Test pit samples exceeded the soil standards (based on the soil-to-groundwater

³ The Constituents of Potential Ecological Concern are promulgated in the Department's Act 2 regulations at 25 Pa. Code Chapter 250, Appendix A, Table 8.

standards for used aquifers) for nickel (one sample), vanadium (one sample), cyanide (one sample), and zinc (four samples).

The estimated volume of surface (0-2 feet) soil and wastes on the properties that contains lead at levels exceeding the soil standards is approximately 30,147 cubic yards. The estimated volume of subsurface soil exceeding the soil standards for lead (based on the soil to groundwater pathway) is 28,178 cubic yards.

Three waste samples were classified as hazardous waste because they failed the Toxicity Characteristic Leaching Procedure ("TCLP") analysis, exceeding the regulatory threshold (5 mg/l) for lead. Based on samples collected during the SC, the Department estimated that samples exceeding 4500 ppm total lead would exceed the TCLP limit. Out of the total volume of soils and wastes exceeding the soil standards, 9481 cubic yards of surface wastes and 6323 cubic yards of subsurface wastes exceed the TCLP limit and would be hazardous.

Groundwater

Groundwater samples from monitoring wells contained the VOCs 1,1,1-trichloroethane (3 ppb) and tetrachloroethene (2 ppb), which are below the groundwater standards⁴, in down gradient well MW-11. MW-12, an upgradient well on the LOC, Inc. property contained 1,1,1-trichloroethane (7 ppb) and trichloroethene (2 ppb), which are below the groundwater standards. Monitoring well 7 (an upgradient well on the Kimmel property) contained 1,2-dichloroethane (7 ppb) and trichloroethene (43 ppb) at levels above the groundwater standards. Total concentrations of aluminum, lead, and manganese were found at levels exceeding the groundwater standards in unfiltered samples of a majority of monitoring wells on the properties. Also, total concentrations of antimony, arsenic and cadmium levels were found at levels exceeding the groundwater standards in unfiltered samples of several monitoring wells on the properties. However, upon filtering there were no exceedences of the groundwater standards except for the secondary contaminants iron and manganese.

A well survey conducted in the area of the site found two private wells remaining. A sample from the Richlyn Manufacturing well contained lead levels above the groundwater standards. At the time of the SC, the owner of Richlyn Manufacturing, Rich Robinson indicated that bottled water was provided for consumption by his employees. The other well was at a residence adjacent to the site at 1723 Filmore Avenue. The owner denied the Department access for sampling; however, it was indicated that the well was not in service at that time.

III. RESPONSE OBJECTIVES

The highest potential risks to human health are to persons who would come into contact with hazardous substances found in site soils, wastes, and sediments above health-based levels.

⁴ Statewide Human Health Standards Medium Specific Concentrations for groundwater are promulgated in the Department's Act 2 regulations at 25 Pa. Code Chapter 250 Tables 1 and 2.

The wastes disposed on the site pose a threat to the ecological community as well. The large, stained fill area on the Kimmel property encroaches into the wetland and does not support vegetative growth. Also, samples from wetland sediments contain lead, zinc, and copper, in addition to other Constituents of Potential Ecological Concern.

Considering the contamination found at the site and potential risks to human health and the environment (described above), the Department proposes to implement a prompt interim response to reduce or eliminate the threats to public health, safety, and the environment from the hazardous substances at the site. This response is not a final response pursuant to Section 504 of HSCA and therefore is not required to meet the cleanup standards, which apply to final remedial responses. This response will comply with the soil standards. This response will adequately protect public health and the environment and not hinder the implementation of any future response actions that may be needed to achieve a complete and final cleanup for the site.

The Department completed a Feasibility Study for the Site in January 1999. To abate the threats to public health, safety and the environment from the hazardous substances at the site, the Department's proposed response is Alternative 2. Alternative components consist of:

For the Kimmel property:

- * Removal and off-site disposal of the estimated 10,000 cubic yards of debris and junk from the surface of the Kimmel property.
- * Excavation to a two foot maximum depth of approximately 14,842 cubic yards of contaminated wastes (drums and foundry sand), surface soils, and sediments that exceed the soil standards. Off-site disposal of hazardous drum wastes. No excavation would occur in the consolidation/capping area (see below).
- * Consolidation of the excavated material under a vegetated, two foot, single-layer soil cap located on the western end of the Kimmel property (area of the cap is approximately 1.8 acres).
- * Backfilling and revegetation of excavated areas.
- * Restoration of areas disturbed through excavation.

For the LOC, Inc. property:

- * Grading (with gravel backfill in low areas as needed) and capping with a concrete cap.

For the Kimmel and LOC, Inc. properties:

- * Construction of stormwater/erosion controls to promote and control runoff from the cap surfaces and to divert water away from the capped area.